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EXAMINER

WANG, JIN CHENG

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,274

Applicant(s)

PARK, HYUN-SOO

Examiner

Jin-Cheng Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The amendment filed on 11/25/2003, paper no 7, has been entered. Claims 2, 6 and 10 have been amended.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheney et al. U.S. Pat. No. 6,519,283 (hereinafter Cheney).

3. Claim 1:

Cheney teaches an apparatus for processing a signal (e.g., column 4, lines 28-57), comprising:

A signal-dispensing unit for dispensing an output signal output from a personal computer in the form of an analog or digital signal (e.g., figures 2-5; column 3, lines 22-40; column 5; column 6, lines 7-25; column 7, lines 19-37);

A signal processing unit for performing picture-in-picture signal processing (e.g., figures 2-5; column 5; column 6, lines 25-67) enabling one of a digital personal computer signal

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generated by the signal dispensing unit and a decoded first signal input from an outside source to be displayed on a main screen and the other to be displayed on at least one sub-screen (e.g., column 5-6; column 7, lines 19-37), and for processing the first signal to be displayed along on the main screen, the first signal being any one of a television signal and a video signal (e.g., figures 2-5; column 6, lines 25-67);

An output unit for outputting an analog personal computer signal generated from the signal dispensing unit in response to a control signal for displaying only the personal computer signal, and outputting an output signal of the signal processing unit in response to a control signal for displaying the personal computer signal and the first signal in picture-in-picture format (e.g., figures 2-5; column 7, lines 1-37); and

A monitor for amplifying (i.e., scaling) the signal output from the outputting unit to be displayed (e.g., figure 3-5; column 6, lines 25-67; column 9, lines 15-67; column 10, lines 1-67; column 11, lines 1-5).

Claim 2:

The claim 2 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a signal conversion unit for converting the picture-in-picture signal output from the signal-processing unit into an analog signal before a signal is output from the outputting unit. However, Cheney further discloses the claimed limitation of a signal conversion unit for converting the picture-in-picture signal output from the signal processing unit into an analog signal before a signal is output from the outputting unit (e.g., figure 2 and column 6, lines 1-50).

Claim 3:

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The claim 3 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal; and a signal processing unit for performing a picture-in-picture signal process on the first signal whose scan rate is converted and the digital personal computer signal, so that one of the first signal and the digital personal computer signal is displayed on the main screen and the other of the first signal and the digital personal computer signal is displayed on the plurality of sub-screens, or for processing the first signal to be displayed along on the main screen.

However, Cheney further discloses the claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal (e.g., figures 2-5; column 5-6; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-67); and a signal processing unit for performing a picture-in-picture signal process on the first signal (e.g., figure 3-5; column 5; column 6, lines 25-67) whose scan rate is converted and the digital personal computer signal, so that one of the first signal and the digital personal computer signal is displayed on the main screen and the other of the first signal and the digital personal computer signal is displayed on the plurality of sub-screens (e.g., figures 3-5; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-8), or for processing the first signal to be displayed along on the main screen (e.g., figure 5; column 7, lines 19-37).

Claim 4:

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The claim 4 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal.

However, Cheney further discloses the claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal (e.g., figure 5; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-8).

Claim 5:

The claim 5 encompasses the same scope of invention as that of claim 2 except additional claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal.

However, Cheney further discloses the claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal (e.g., figure 5; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-8).

4. Claims 6-9:

Each of the claims 6-9 is a rephrasing of claim 1, 2, 4 and 5 in a method form. The claims 6-9 are rejected for the same reasons set forth in claims 1, 2, 4 and 5, respectively.

5. Claims 11-13:

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Each of the claims 11-13 encompasses the same scope of invention as that of claims 1, 2, 4 and 5, respectively. The claims 11-13 are rejected for the same reasons set forth in claims 1, 2, 4 and 5.

Claim 14:

The claim 14 encompasses the same scope of invention as that of claim 10 except additional claimed limitation of the video signal being selected from the group consisting of a television video signal and non-broadcasted video signal.

However, Cheney further discloses the claimed limitation of the video signal being selected from the group consisting of a television video signal and non-broadcasted video signal (e.g., column 3, lines 22-40).

Claim 15:

The claim 15 encompasses the same scope of invention as that of claim 10 except additional claimed limitation of an analog to digital converter unit converting the output signal from the signal dispensing unit from an analog signal into a digital signal for the signal processing unit; and a digital to analog converter unit converting the output signal generated from the signal dispensing unit from a digital signal into an analog signal for the outputting unit.

However, Cheney further discloses the claimed limitation of an analog to digital converter unit converting the output signal from the signal dispensing unit from an analog signal into a digital signal for the signal processing unit (e.g., column 5-7); and a digital to analog converter unit converting the output signal generated from the signal dispensing unit from a digital signal into an analog signal for the outputting unit (e.g., column 5-7).

Remarks

6. Applicant's arguments, filed 11/25/2003, paper number 7, have been fully considered but they are not deemed to be persuasive.

7. The Applicant argues in essence with respect to newly amended claim 1 and similar claims that:

"However, in claim 1, the signal processing unit performs the picture-in-picture signal processing and then the outputting unit outputs either the "un-processed" personal computer signal generated from the signal dispensing unit or the picture-in-picture formatted signal from the signal processing unit."

In response, the examiner asserts that Cheney meets the claim limitation set forth in the claim 1 as the claim 1 called for "an outputting unit outputting the output signal of the personal computer signal generated from the signal dispensing unit in response to a control signal for displaying only the personal computer signal, and outputting an output signal of the signal processing unit in response to a control signal for displaying personal computer signal and the first signal in picture-in-picture format." Applicant argues that the outputting unit outputs either the "un-processed" personal computer signal generated from the signal dispensing unit or the picture-in-picture formatted signal from the signal processing unit. First of all, this argument is NOT exactly found in the claim 1 as a claim limitation. Second, as can be clearly seen in column 1 and 2 of Cheney, Cheney teaches displaying the computer graphics image and the video image in multiple screens simultaneously or in picture-in-picture formats. Furthermore, in column 7, Cheney teaches pixel select control selecting one of the computer signal or the TV signal and then

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blended with the computer graphics signal. Therefore Cheney teaches an outputting unit (Fig. 5) outputting the output signal of the personal computer signal (forwarding uncompressed signal for display in mode 2) and outputting an output signal of the signal processing unit in response to a control signal for displaying personal computer signal and the first signal in picture-in-picture format (supporting picture-in-picture display in mode 3). Cheney therefore teaches that the uncompressed signal (computer signal) can be displayed independently from the compressed signal (TV signal). Furthermore, Cheney also teaches that OSD graphics can be used to put a border around the computer signal. Therefore, Cheney clearly meets the claim limitation as claimed.

8. The Applicant argues in essence with respect to the amended claim 1 and similar claims that:

“Cheney fails to disclose both an output signal from a personal computer and the first signal being one of a television signal and a video signal as claimed in claim 1 and therefore fails to show the signal processing unit performing a picture-in-picture signal processing of the output from personal computer and the first signal (being any one of a television signal and video signal).”

This is not found persuasive for the following reasons:

Cheney clearly teaches an output signal from a personal computer (uncompressed signal for display in mode 2) and the first signal (the compressed signal for display in mode 1 and 3). Cheney clearly teaches the uncompressed signal which is a personal computer signal and a compressed signal which meets the claim limitation of “a first signal” being any one of a

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television signal and a video signal because Cheney's decompressed signal comes from the digital video from CABLE or SATELLITE and therefore the compressed signal is one of a television signal and a video signal.

9. The Applicant argues in essence with respect to the amended claim 1 and similar claims that:

“Cheney fails to disclose the monitor for amplifying the signal output from the outputting unit...”

This is not found persuasive because Cheney meets the claim limitation of “the monitor for amplifying the signal output from the outputting unit. For example, in column 10 and 11, Cheney clearly teaches a decimation unit 682 which functions as part of video, display unit 690 when retrieving data for display and the video data comprising full-size scan lines is retrieved from frame buffer storage 653 and fed through decimation unit 682 for B-frame *re-expansion* of pictures. Cheney further teaches video scaling mode. When in *video scaling mode*, decoded video comprising *scaled* (both amplifying and reducing the image sizes) scan lines is retrieved from frame buffer storage 653 and fed directly to scan line video buffers 684.

10. The Applicant argues in essence with respect to claims 2 and 15 that:

“... The outputting unit was explained by the Examiner as being the MUX 202 of figure 5, the clearly D/A conversion is not made before the outputting unit.”

This is not found persuasive for the following reasons:

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In response to the applicant's argument, the examiner urges the applicant refer to figure 2 because the MUX 202 is within one embodiment of 106 in figure 6. Cheney clearly teaches a signal conversion unit (which is either the MUX 202 itself or the D/A conversion unit incorporated in figure 2 wherein the outputting unit comprising multiple blocks as indicated in figure 2). In any case, Cheney clearly meets the claim limitation of "a signal conversion unit" and the signal has to be converted before a signal is output from the outputting unit such as a television. Cheney clearly teaches the D/A conversion multiple occasions, for example, in figure 2 and in column 6, Cheney teaches *digital-to-analog conversion of the video signal occurs prior to output 110 to the television system*. Cheney clearly teaches an *A/D video decoder* that meets the claim limitation of "an analog to digital converter unit" (See column 5-6 and 18) as well as a *D/A video encoder* that meets the claim limitation of "a digital to analog converter unit" (See column 5-6 and 18).

11. The Applicant argues in essence with respect to claims 3-5 that:

"... Cheney fails to disclose the decoding unit as arranged in the claim. In Cheney a unit does not take the TV/video signal (first signal) and converts to a digital signal and decodes the first signal... Cheney also fails to disclose a scan rate conversion unit that converts the scan rate of the decoded first signal."

This is not found persuasive because Cheney clearly meets the claim limitation set forth in the claims 3-5. Cheney clearly teaches a decoding unit in both figure 2-5 and column 7. Through the memory controller, video and computer signals fed to the unit for processing which is clearly taught by Cheney. In addition, Cheney clearly teaches scan rate conversion in for example

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column 9 and 10. Cheney teaches digitizing the *analog* video signal for input to the digital video processing system. Moreover, Cheney clearly teaches an *A/D video decoder* that meets the claim limitation of “an analog to digital converter unit” (See column 5-6 and 18) as well as a *D/A video encoder* that meets the claim limitation of “a digital to analog converter unit” (See column 5-6 and 18).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

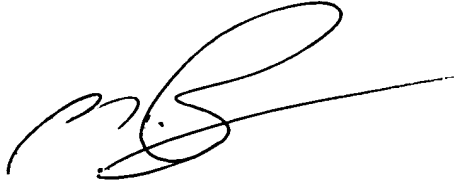
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (703) 605-1213. The examiner can normally be reached on 8:00 AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6606 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 395-3900.

jcw
January 6, 2004



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600